

# **Design Guidelines for Integrating Entrepreneurship into K-12 Classrooms**

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## **Introduction**

Entrepreneurship is defined as the ability to turn an idea into an action using creativity to create value for others (Chen et al., 2001; McGee et al., 2009; Tsai et al., 2016). It is the driving force of our economy. Arming young people with an entrepreneurial mindset will promote future business creation and build a pipeline of entrepreneurial thinkers. Without the innovation and risk-taking of entrepreneurially minded individuals, we would not invent, empower, or thrive as a nation. Also, an entrepreneurial mindset helps increase creativity and self-confidence in every aspect of people's lives and is an essential driver of growth and sustainability (Neck & Corbett, 2018).

## **Entrepreneurship Education**

Entrepreneurship education is needed to provide the necessary knowledge and skills for young people to launch innovative practices to be competitive in the world (Gargouri & Naatus, 2019). Entrepreneurship education provides students with a safe environment to experience what it is like to be entrepreneurs (Neck & Greene, 2011). Unfortunately, entrepreneurship education is underdeveloped in K-12 schools (Zhao, 2012a), even though teaching entrepreneurship in the K-12 sector can help build a generation of young people armed with an entrepreneurial mindset and become innovators, creators, and leaders in the workforce.

## **Purpose of this Paper**

Teaching entrepreneurship in the K-12 sector can help build a generation of young people armed with an entrepreneurial mindset who become innovators, creators, and leaders in the workforce. The purpose of this presentation is to provide guidelines to integrate entrepreneurship into K-12 classrooms.

## **Guideline 1: Use a design-based thinking approach**

Design-based thinking (DBT) is a cyclical process of observation, synthesis, generating alternatives, critical thinking, feedback, and creativity, similar to the entrepreneurial process (Daniel, 2016). The entrepreneurial process emulates the design-based thinking process, as they are both iterative and start with problem identification moving from ideation/brainstorming to prototyping and testing ideas (Neck & Greene, 2011). By approaching entrepreneurship from a DBT perspective, teachers can ask students to identify problems they want to solve, generate ideas, gather information from various sources to solve the problem, and launch their business.

## **Guideline 2: Promote students' entrepreneurial mindset**

An entrepreneurial mindset is the state of mind that changes an individual's status to an entrepreneur. An entrepreneurial mindset concerns the analysis of the world, its opportunities and possibilities, and the understanding of how an individual can contribute to the progress of economic and social systems (Kouakou et al., 2019). An individual with an entrepreneurial mindset has a set of skills enabling him/her to recognize opportunities/identify problems that need to be solved, take risks, create value from opportunities, and overcome challenges (Fayolle & Gailly, 2015). Empirical studies show that an entrepreneurial mindset is a precursor for entrepreneurial behavior, intentions, and actions and indicates an individual's worldview (Daniel, 2016; E. Kim & Strimel, 2020; Korte, 2018; Kouakou et al., 2019; Popescu, 2014; Rae & (Daniel, 2016; Kim & Strimel, 2020; Korte, 2018; Kouakou et al., 2019; Popescu, 2014; Rae & Melton, 2016)

## **Guideline 3: Experience the entrepreneurial process from inception through implementation**

This guideline is grounded on the experiential learning model. Kolb's experiential learning model focuses on experience as the main force driving learning because "Learning is the process whereby knowledge is created through the transformation of experience" (1984, p. 38). According to Kolb (1984), a person learns when he or she can progress through a cycle of four stages, including a concrete experience, a reflection on the experience, an analysis of the reflection, and an application of that analysis to future experiences. Empirical studies show that an experiential learning approach contributes to students' entrepreneurial mindset. For example, Bell (2015) found in her research that an experiential learning approach requiring students to pitch ideas, present findings and reflections, and work with community members while developing a business idea increased entrepreneurial mindsets. Lackéus (2020) found that experiencing a real-life business startup process increased student self-efficacy for entrepreneurship.

## **Guideline 4: Provide scaffolding**

Vygotsky's Zone of Proximal Development (ZPD) provides underpinnings for this guideline. The ZPD is a construct that bridges the gap between what a student can already do and what he or she can do with assistance. The ZPD is the target area where scaffolds are the most helpful. Instruction focused within a students' ZPD provides just enough challenge to help them build the next skill level (Belland, 2014). Teachers provide adequate assistance to give students enough help to be successful while still challenging them. As students gain skill, teachers decrease scaffolding support until students can accomplish the task independently (Belland et al., 2013; Vasconcelos & Kim, 2019).

Entrepreneurship is inherently ill-defined as the entrepreneurial journey has many twists and turns and uncertain outcomes, providing challenges. For students with little or no experience in entrepreneurship, this process may seem intimidating. With appropriate scaffolding, students can progress so that scaffolds can be faded as students gain competence and confidence (Belland et al., 2008). Scaffolding strategies include highlighting essential task elements, questioning, modeling how experts solve problems, providing feedback, etc. (Belland, 2014). Teachers can scaffold entrepreneurial learning by modeling their thinking when describing new concepts. They can lead by example, demonstrating their thoughts and actions in the face of new information.

**Guideline 5: Use authentic problems**

Teachers' objective is to develop ways for students to experience the realities of starting a business in a risk-free or safe environment such as the classroom (San Tan & Ng, 2006). This way, entrepreneurial competencies can be developed that actively engage learners (Macht & Ball, 2016; Miles et al., 2017; Robinson et al., 2016). Authentically aligned activities should be used to enable the practical application of the same skills knowledgeable professionals apply when addressing similar activities (Fook & Sidhu, 2010; Macht & Ball, 2016). Authentic activities enable deeper learning by increasing students' motivation and engagement and supporting students' achievement. For entrepreneurial education, teachers can ask students to identify local problems, interview stakeholders to improve their business ideas, create a product to conduct experiments to test the product, and pitch their ideas to an authentic audience.